

IN THE CLAIMS

Claim 1 has been amended as follows:

1. (Currently Amended) A method for setting a hearing aid system, comprising:

providing a first hearing aid device and a second hearing aid device separate from said first hearing aid device;

in each of said first and second hearing aid device, providing ~~at least one~~ , in sequence, an input transducer, a signal processing unit, and an output transducer ~~for each of the first and second hearing aid device~~;

in each of said first and second hearing aid device, receiving an acoustic input signal by the input transducer and converting the acoustic input signal into an electrical signal by the input transducer~~[[;]], and~~ processing the electrical signal by [[a]] the signal processing unit to produce a processed signal that compensates a hearing impairment and converting the processed electrical signal into an output signal by ~~an~~ the output transducer;

providing a signal path for data transmission between the first and second hearing aid ~~device~~ devices;

automatically measuring ~~determining~~ a signal transit time of the electrical signal in a signal path between the input transducer and the output transducer of the first hearing aid device;

automatically transmitting a signal₁ via the signal path for data transmission from the first hearing aid device to the second hearing aid device₁, ~~related to indicating the determined~~ measured signal transit time; and

from the measured signal transit time indicated in the transmitted signal,
automatically, at said second hearing aid device, adapting a signal transit time of the electrical signal in a signal path between the input transducer and the output transducer of the second hearing aid device to ~~the determined~~ match the measured signal transit time ~~[[in]]~~ of the first hearing aid device ~~based on the transmitted signal.~~

Claim 2 has been amended as follows:

2. (Currently Amended) The method according to claim 1, further comprising:
~~determining a~~ measuring said signal transit time by measuring a time needed for passage of an electrical signal through a sub-region of the signal path between the input transducer and the output transducer of the first hearing aid device.

Claim 3 has been cancelled.

3. (Cancelled)

Claim 4 has been amended as follows:

4. (Currently Amended) The method according to claim 1, wherein ~~determining~~ measuring the signal transit time of the electrical signal in the first hearing aid device further comprises:

detecting ~~determining~~ an envelope of the electrical signal; and

calculating a phase shift for ~~determined envelopes~~ the detected envelope of the electrical signal ~~for~~ and determining the signal transit time dependent on said phase shift.

Claim 5 has been amended as follows:

5. (Currently Amended) The method according to claim 1, further comprising:
measuring ~~applying a correlation analysis for determining~~ the signal transit time by correlation analysis.
6. (Original) The method according to claim 1, further comprising:
generating a test signal for determining the signal transit time, the test signal at least partially traversing the signal path between the input transducer and the output transducer of the first hearing aid device.

Claim 7 has been amended as follows:

7. (Currently Amended) The method according to claim 1, further comprising:
measuring determining a signal transit time of an electrical signal in a signal path between the input transducer and the output transducer of the second hearing aid device; and
transmitting data relating to the signal transit time via the signal path for data transmission from the second hearing aid device to the first hearing aid device related to the determined signal transit time of the second hearing aid device.

Claim 8 has been amended as follows:

8. (Currently Amended) The method according to claim 7, further comprising:
determining which is the ~~shortest~~ shorter of: a) the signal transit time in the first hearing aid device, and b) the signal transit time in the second hearing aid device; and

introducing a signal delay in the hearing aid device among said first and second hearing aid devices determined to have the ~~shortest~~ shorter signal transit time.

Claim 9 has been amended as follows:

9. (Currently Amended) The method according to claim 1, wherein the signal processor of said second hearing aid device comprises at least one digital component, and further comprising:

~~providing operating said at least one digital circuit technology for the signal processing unit~~ component with a clock signal having a clock frequency; and

~~adapting~~ adapting said signal transit time by [[a]] the clock frequency of said at least one digital component ~~for adapting the signal transit time.~~

Claim 10 has been amended as follows:

10. (Currently Amended) The method according to claim 1, wherein said second hearing aid device comprises a filter, and further comprising:

~~setting a filter of the first hearing aid device for adapting the signal transit time~~ by setting said filter.

Claim 11 has been amended as follows:

11. (Currently Amended) The method according to claim 1, further comprising:

~~periodically determining the signal transit time~~ measuring and adapting the signal transit time.

Claim 12 has been amended as follows:

12. (Currently Amended) The method according to claim 1, further comprising:

implementing at least one of a parameter change and a function change in at least one of the first and second hearing aid devices; and

measuring ~~the determining of the signal transit time~~ and adapting ~~[[of]]~~ the signal transit time ~~follow the~~ after implementing ~~[[of]]~~ the at least one of the parameter change and the function change.

Claim 13 has been amended as follows:

13. (Currently Amended) The method according to claim 1, further comprising:

providing a plurality of parallel frequency channels for the signal processing, ~~wherein the determining of~~ and measuring the signal transit time and ~~the~~ adapting ~~[[of]]~~ the signal transit time ~~ensue~~ in at least one of the frequency channels.

Claim 14 has been amended as follows:

14. (Currently Amended) A method for setting a hearing aid system, comprising:

providing a first hearing aid device and a second hearing aid device separate from said first hearing aid device;

in each of said first and second hearing aid devices, providing at least one in sequence, an input transducer for each of the first and second hearing aid device , a signal processing unit, and an output transducer;

in each of said first and second hearing aid devices, receiving an acoustic input signal by the input transducer and converting the acoustic input signal into an electrical signal by the input transducer[[:]], and processing the electrical signal by [[a]] the signal processing unit to produce a processed signal that compensates a hearing impairment and converting the processed electrical signal into an output signal by an output transducer;

providing a signal path for data transmission between the first and second hearing aid ~~device~~ devices;

automatically measuring determining an amplification value or a change in amplification value of an electrical signal in a signal path between the input transducer and the output transducer of the first hearing aid device;

automatically transmitting a signal, via the signal path for data transmission to the second hearing aid device, ~~related to~~ indicating the ~~determined~~ measured amplification value or change in amplification value; and

from the measured signal transit time indicated in the transmitted signal, automatically, at said second hearing aid device adapting an amplification of an electrical signal in a signal path between the input transducer and output transducer of the second hearing aid device

according to the ~~determined~~ match the measured amplification value or change in amplification value ~~determined for~~ of the first hearing aid device.

Claim 15 has been amended as follows:

15. (Currently Amended) The method according to claim 14, further comprising:

~~determining an~~ measuring said amplification or amplification change of the electrical signal for a sub-region of the signal path between the input transducer and the output transducer of the first hearing aid device.

Claim 16 has been cancelled

16. (Cancelled)

Claim 17 has been amended as follows:

17. (Currently Amended) The method according to claim 14, further comprising:

generating a test signal for ~~determining~~ measuring the amplification or amplification change, the test signal at least partially traversing the signal path between the input transducer and the output transducer of the first hearing aid device.

Claim 18 has been amended as follows:

18. (Currently Amended) The method according to claim 14, further comprising:

utilizing at least one of signal amplitudes and signal levels of the electrical signal for ~~determining~~ measuring the amplification or amplification change.

Claim 19 has been amended as follows:

19. (Currently Amended) The method according to claim 14, further comprising:

measuring ~~determining~~ an amplification or amplification change of an electrical signal in a signal path between the input transducer and the output transducer of the second hearing aid device; and

transmitting a signal via the signal path for data transmission from the second hearing aid device to the first hearing aid device related to the ~~determined~~ measured amplification or amplification change of the second hearing aid device.

Claim 20 has been amended as follows:

20. (Currently Amended) The method according to claim 14, wherein said second hearing aid device comprises a filter, and further comprising:

adapting the amplification ~~setting a filter~~ of the first second hearing aid device ~~for adapting the amplification by setting said filter.~~

Claim 21 has been amended as follows:

21. (Currently Amended) The method according to claim 14, further comprising:

periodically ~~determining~~ measuring and adapting the amplification or amplification change and ~~adapting the amplification~~.

Claim 22 has been amended as follows:

22. (Currently Amended) The method according to claim 14, further comprising:

implementing at least one of a parameter change and a function change in at least one of the first and second hearing aid devices; and

measuring the ~~determining~~ of the amplification and adapting [[of]] the amplification ~~follow the~~ after implementing [[of]] the at least one of the parameter change and the function change.

Claim 23 has been amended as follows:

23. (Currently Amended) The method according to claim 14, further comprising:

providing a plurality of parallel frequency channels for the signal processing, ~~wherein the determining the determining~~ measuring the amplification and adapting the amplification ~~ensue~~ in at least one of the frequency channels.

Claim 24 has been amended as follows:

24. (Currently Amended) A method for setting a hearing aid system, comprising:

providing a first hearing aid device and a second hearing aid device separate from said first hearing aid device;

in each of said first and second hearing aid devices, providing, in sequence,
an at least one input transducer, a signal processing unit and an output
transducer for each of the first and second hearing aid device;

in each of said first and second hearing aid devices, receiving an acoustic
input signal by the input transducer and converting the acoustic input
signal into an electrical signal by the input transducer[[:]], and
processing the electrical signal by a signal processing unit to produce a
processed signal that compensates a hearing impairment and
converting the processed electrical signal into an output signal by an
output transducer;

providing a signal path for data transmission between the first and second
hearing aid device devices;

automatically measuring determining a signal amplitude of an electrical signal
in a signal path between the input transducer and the output transducer
of the first hearing aid device;

automatically transmitting a signal, via the signal path for data transmission to
the second hearing aid device, ~~related to~~ indicating the ~~determined~~
measured signal amplitude; and

from the measured signal transit time indicated in the transmitted signal,
automatically, at said second hearing aid device, adapting an
amplification of an electrical signal in a signal path between the input
transducer and output transducer of the second hearing aid device

according to match determined the measured signal amplitude
~~determined for~~ of the first hearing aid device.

Claim 25 has been cancelled.

25. (Cancelled)

Claim 26 has been amended as follows:

26. (Currently Amended) The method according to claim 24, further
comprising:

generating a test signal for ~~determining~~ measuring the signal amplitude, the
test signal at least partially traversing the signal path between the input
transducer and the output transducer of the first hearing aid device.

Claim 27 has been amended as follows:

27. (Currently Amended) The method according to claim 24, further
comprising:

measuring ~~determining~~ a signal amplitude of an electrical signal in a signal
path between the input transducer and the output transducer of the
second hearing aid device; and

transmitting a signal via the signal path for data transmission from the second
hearing aid device to the first hearing aid device related to the
determined signal amplitude of the second hearing aid device.

Claim 28 has been amended as follows:

28. (Currently Amended) The method according to claim 24, wherein said
second hearing aid device comprises a filter, and further comprising:

~~adapting the signal amplitude~~ ~~setting a filter~~ of the first ~~second~~ hearing aid device by setting said filter for ~~adapting the signal amplitude~~.

Claim 29 has been amended as follows:

29. (Currently Amended) The method according to claim 24, further comprising:

~~periodically determining the signal amplitude~~ measuring and adapting the signal amplitude.

Claim 30 has been amended as follows:

30. (Currently Amended) The method according to claim 24, further comprising:

implementing at least one of a parameter change and a function change in at least one of the first and second hearing aid devices; and

~~the determining of~~ measuring the signal amplitude and adapting ~~[[of]]~~ the signal amplitude ~~follow the~~ after implementing ~~[[of]]~~ the at least one of the parameter change and the function change.

Claim 31 has been amended as follows:

31. (Currently Amended) The method according to claim 24, further comprising:

providing a plurality of parallel frequency channels for the signal processing, ~~wherein the determining of the signal amplitude~~ and measuring and the adapting ~~[[of]]~~ the signal amplitude ~~ensue~~ in at least one of the frequency channels.

Claim 32 has been amended as follows:

32. (Currently Amended) A hearing aid system, comprising:

a first hearing aid device and a second hearing aid device, each of which
~~comprise~~ comprising:

an input transducer for ~~the pick-up of~~ receiving an acoustic input signal
and conversion thereof into an electrical signal;

a signal processing unit for processing the electrical signal to produce
a processed signal that compensates a hearing impairment; and

an output transducer for converting the ~~electrical~~ processed signal into
an output signal;

the hearing aid system further comprising a signal path for data transmission
between the first and second hearing aid ~~device~~ devices;

the first hearing aid device further comprising:

a measuring ~~mechanism~~ circuit configured to measure a signal transit
time of an electrical signal in a signal path between the input
transducer and the output transducer of the first hearing device;
and

a transmitter for transmitting a signal indicating the measured signal
transit time from the first hearing aid device to the second
hearing aid device over the signal path for data transmission;

the second hearing aid device further comprising:

a receiver for receiving the transmitted signal ~~measured signal transit~~
time; and

an adapting ~~mechanism~~ circuit configured for adapting a signal transit
time in a signal path between the input transducer and the
output transducer of the second hearing aid device ~~based on~~ to
match the received measured signal transit time indicated in the
received signal.

Claim 33 has been amended as follows:

33. (Currently Amended) The hearing aid system according to claim 32,
wherein the measuring ~~mechanism further~~ circuit comprises a correlator configured
to perform a correlation analysis on the electrical signal.

Claim 34 has been amended as follows:

34. (Currently Amended) The hearing aid system according to claim 32,
wherein ~~at least one of the first and second hearing aid devices~~ comprises ~~[[a]]~~ an
adjustable signal delay mechanism circuit and wherein said adapting circuit adjusts
said signal delay circuit to adapt said signal transit time.

Claim 35 has been amended as follows:

35. (Currently Amended) The hearing aid system according to claim 32,
wherein the signal processing units of the ~~first and of the~~ second hearing aid device
~~comprise~~ comprises at least one digital circuit technology and a clock, ~~and at least~~
~~one of the first and second hearing aid devices further comprises a clock control~~
component operating with an adjustable clock frequency, and wherein said adapting
circuit adjusts said clock frequency to adapt said signal transmit time.

Claim 36 has been amended as follows:

36. (Currently Amended) The hearing aid system according to claim 32, further comprising:

a plurality of parallel frequency channels for the first and second hearing aid devices in which the signal processing occurs;

wherein

the measuring mechanism of at least the first hearing aid device is configured to measure the signal transit time in at least one frequency channel in the first hearing aid device; and

the adapting mechanism of at least the second hearing aid device is configured to adapt the signal transit time in at least one frequency channel in the second hearing aid device.

Claim 37 has been amended as follows:

37. (Currently Amended) The hearing aid system according to claim 32, wherein:

the first hearing aid device further comprises at least one transmission unit configured to wirelessly transmit ~~data~~ said signal to the second hearing aid device; and

the second hearing aid device further comprises at least one reception unit configured to wirelessly receive ~~data~~ said signal from the first hearing aid device.

Claim 38 has been amended as follows:

38. (Currently Amended) The hearing aid system according to claim 32, wherein at least the first hearing aid device further comprises a test signal generator configured to generate a test signal for measuring said transit time.

Claim 39 has been amended as follows:

39. (Currently Amended) A hearing aid system, comprising:

a first hearing aid device and a second hearing aid device, each of which ~~comprise~~ comprising:

an input transducer for ~~the pick-up of~~ receiving an acoustic input signal and conversion thereof into an electrical signal;

a signal processing unit for processing the electrical signal to produce a processed signal that compensates a hearing impairment; and

an output transducer for converting the ~~electrical~~ processed signal into an output signal;

the hearing aid system further comprising a signal path for data transmission between the first and second hearing aid ~~device~~ devices;

the first hearing aid device further comprising:

a measuring ~~mechanism~~ circuit configured to measure an amplification or amplification change of an electrical signal in a signal path between the input transducer and the output transducer of the first hearing device; and

a transmitter for transmitting a signal indicating the measured amplification or amplification change from the first hearing aid

device to the second hearing aid device over the signal path for data transmission;

the second hearing aid device further comprising:

a receiver for receiving the transmitted ~~measured amplification or~~
amplification change signal; and

an adapting ~~mechanism~~ circuit configured for adapting an amplification in a signal path between the input transducer and the output transducer of the second hearing aid device ~~based on the~~ to match the received measured amplification or amplification change indicated in the received signal.

Claim 40 has been amended as follows:

40. (Currently Amended) The hearing aid system according to claim 39, further comprising:

a plurality of parallel frequency channels for the first and second hearing aid devices in which the signal processing occurs;

wherein

the measuring ~~mechanism~~ circuit of at least the first hearing aid device is configured to measure the amplification or amplification change in at least one frequency channel in the first hearing aid device; and

the adapting ~~mechanism~~ circuit of at least the second hearing aid device is configured to adapt the amplification in at least one frequency channel in the second hearing aid device.

Claim 41 has been amended as follows:

41. (Currently Amended) The hearing aid system according to claim 39, wherein:

the first hearing aid device further comprises at least one transmission unit configured to wirelessly transmit data said signal to the second hearing aid device; and

the second hearing aid device further comprises at least one reception unit configured to wirelessly receive data said signal from the first hearing aid device.

Claim 42 has been amended as follows:

42. (Currently Amended) The hearing aid system according to claim 39, wherein at least the first hearing aid device further comprises a test signal generator configured to generate a test signal for measuring said amplification or amplification change.

Claim 43 has been amended as follows:

43. (Currently Amended) A hearing aid system, comprising:

a first hearing aid device and a second hearing aid device, each ~~of which~~ comprise comprising:

an input transducer for ~~the pick-up of~~ receiving an acoustic input signal and conversion thereof into an electrical signal;

a signal processing unit for processing the electrical signal to produce a processed signal that compensates a hearing impairment; and

an output transducer for converting the ~~electrical~~ processed signal into
an output signal;

the hearing aid system further comprising a signal path for data transmission
between the first and second hearing aid ~~device~~ devices;

the first hearing aid device further comprising:

a measuring ~~mechanism~~ circuit configured to measure a signal
amplitude of an electrical signal in a signal path between the
input transducer and the output transducer of the first hearing
device; and

a transmitter for transmitting a signal indicating the measured signal
amplitude from the first hearing aid device to the second hearing
aid device over the signal path for data transmission;

the second hearing aid device further comprising:

a receiver for receiving the transmitted ~~measured signal amplitude~~
signal; and

an adapting ~~mechanism~~ circuit configured for adapting a signal
amplitude in a signal path between the input transducer and the
output transducer of the second hearing aid device ~~based on the~~
~~received~~ to match the measured signal amplitude indicated in
the received signal.

Claim 44 has been amended as follows:

44. (Currently Amended) The hearing aid system according to claim 43, further comprising:

a plurality of parallel frequency channels for the first and second hearing aid devices in which the signal processing occurs;

wherein

the measuring ~~mechanism~~ circuit of at least the first hearing aid device is configured to measure the signal amplitude in at least one frequency channel in the first hearing aid device; and

the adapting mechanism of at least the second hearing aid device is configured to adapt the signal amplitude in at least one frequency channel in the second hearing aid device.

Claim 45 has been amended as follows:

45. (Currently Amended) The hearing aid system according to claim 43, wherein:

the first hearing aid device further comprises at least one transmission unit configured to wirelessly transmit data the signal to the second hearing aid device; and

the second hearing aid device further comprises at least one reception unit configured to wirelessly receive data the signal from the first hearing aid device.

Claim 46 has been amended as follows:

46. (Currently Amended) The hearing aid system according to claim 43, wherein at least the first hearing aid device further comprises a test signal generator configured to generate a testing signal for measuring said signal amplitude.

Claim 47 has been amended as follows:

47. (Currently Amended) A hearing aid system, comprising:

a first hearing aid device and a second hearing aid device, each of which ~~comprise~~ comprising:

an input transducer for ~~the pick-up of~~ receiving an acoustic input signal and conversion thereof into an electrical signal;

a signal processing unit for processing the electrical signal to produce a processed signal that compensates a hearing impairment⁴; and

an output transducer for converting the electrical processed signal into an output signal;

the hearing aid system further comprising a signal path for data transmission between the first and second hearing aid ~~device~~ devices;

the first hearing aid device further comprising:

a memory configured for storing data related to a signal transit time of an electrical signal in a signal path between the input transducer and the output transducer of the first hearing aid device; and

a transmitter configured for transmitting said data from said memory related to ~~[[a]]~~ said signal transit time via said ~~of an electrical~~

~~signal in a~~ signal path ~~between the input transducer and the~~
~~output transducer of the first hearing aid device~~ for data
transmission;

the second hearing aid device further comprising:

a receiver configured for receiving the transmitted data via the signal
path for data transmission; and

an adapting mechanism circuit configured for adapting a signal transit
time in a signal path between the input transducer and the
output transducer of the second hearing aid device ~~based on~~ to
match the received transmitted data.

Claim 48 has been amended as follows:

48. (Currently Amended) The hearing aid system according to claim 47,
wherein the first hearing aid device further comprises:

a plurality of parameter sets for adapting the signal processing in the first
hearing aid device to different hearing situations;

a memory for storing the plurality of parameter sets in the first hearing aid
device;

a setting mechanism circuit for setting values of the parameter sets; and

a mechanism circuit for allocating said data with respect to the signal transit
time of an electrical signal in the signal path between the input
transducer and the output transducer of the first hearing aid device to
at least one parameter set.

Claim 49 has been cancelled.

49. (Cancelled)